KY Valid Course List

HOW TO USE THIS DOCUMENT

This document contains a listing of course descriptions and parameters along with certifications that fit the parameters for a given course. The grade range and population information listed for each course are not absolute. Please choose the course that most closely represents the students in a given course.

EXAMPLE

John Q Middle School had 5th, 6th, and 7th grade students taking a Creative Art course. This course would be linked to course number **500711: Creative Art – Comprehensive**, which shows with a recommended grade range of 6th – 12th.

The courses listed in this document are not meant to replace the course titles and course numbers already in use at the school level. Schools will link their courses in the STI Valid Course List to courses listed in this document.

Schools may have created courses that are very unique in order to meet students' needs. If a course does not meet the definition or content of one contained in this document, please use course number **909999: School Defined Course**, and code the correct content through the LEAD report.

CERTIFICATIONS

It is important to note that the certificates listed are the ones that fit *ALL* of the parameters for a specific course – there may be other certificates that can teach it with slightly more restrictive parameters.

It is very important to note that not all of the certificates listed under a specific course will meet the Highly Qualified Teacher standards as defined by The No Child Left Behind Act of 2001. Please refer to the Highly Qualified guidance documents located on the Education Professional Standards Board (EPSB) website at http://www.kyepsb.net/nclb.asp.

In addition to Highly Qualified considerations, please take note of the following information from ***The Program of Studies for Kentucky Schools Primary-12*** with regard to middle school courses that are offered for high school credit.

High School Credit Earned in Middle School

It is expected that most students will earn these credits during their high school years. However, local school districts may offer these courses to middle level students if the following criteria are met:

- the content and the rigor of the course is the same as established in the *Program of Studies*
- the students demonstrate mastery of the middle level content as specified in the *Program of Studies*
- the district has criteria in place to make reasonable determination that the middle level student is capable of success in the high school course
- **the middle level course is taught by teachers with either secondary or middle level certification with appropriate content specialization**

Although middle level courses list the Provisional and Standard Elementary Certificates, Grades 1-8 as allowable under the parameters of these courses, they will not meet the above requirements for courses that are offered for high school credit.

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Please contact Robin Chandler in KDE's Division of Curriculum at 502-564-2106 with any questions on content and curricula.

Please contact EPSB's Division of Certification at 502-564-4606 with any questions on credentials or permissions.

Table of Contents

Industrial Education
(460000)

Industrial Education - Masonry
(460100)

460111 - Masonry Lab - Ky Tech

Grade Level: 9 - 12
Credits: 0
Description: In this lab, the students will practice and apply the principles, theories and skills taught in MAS 105 and MAS 205.
Content: Masonry
Population: General

460112 - Introductory Masonry - Ky Tech

Grade Level: 9 - 12
Credits: 1
Description: The basic introductory course identifies various types of mortar and cement along with the use of basic masonry tools. The different methods of spacing materials on a construction site and the 6-8-10 method are emphasized, in addition to the use of the transit level, brick spacing, and modular rule. This course also focuses on laying straight and plumb brick to the line, as well as bricking gables and building columns. Setting up different types of masonry material, marking off layout lines, and erecting batter boards will be practiced, along with techniques employed in different types of weather and climates.
Content: Masonry
Population: General

460113 - Advanced Masonry - Ky Tech

Grade Level: 9 - 12
Credits: 1
Description: The advanced course provides experience in laying quoin corners, bricking in around electrical and plumbing units, and laying door and window brick sills The student will construct expansion joints, piers, pilasters and retaining and split face block walls.
Content: Masonry
Population: General

460199 - Special Topics - Masonry

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Masonry but not described in the above courses.
Content: Masonry
Population: General

Industrial Education - Construction / Carpentry
(460200)

460201 - Introduction to Construction Technology

Grade Level: 9 - 12
Credits: 1
Description: This course is broad-based with emphasis on the types, grades, sizes, and standards of building materials including the types of fasteners and their correct uses. Students will learn to correctly utilize and maintain commonly used hand and power tools. Safety in the lab and on the job site is stressed.
Content: Construction Technology for Industrial Ed. Credit
Population: General

460211 - Introduction to Carpentry

Grade Level: 9 - 12
Credits: 1
Description: This course emphasizes the types, grades, sizes, and standards of building materials including the types of fasteners and their correct uses. Students will also learn to correctly utilize and maintain commonly used hand and power tools. Safety in the lab and on the job site is stressed.
Content: Residential/Commercial Carpentry
Population: General

460212 - Floor and Wall Framing

Grade Level: 9 - 12
Credits: 1
Description: The student will practice floor framing, layout, and construction of floor frames. Cutting and installing floor and wall framing members according to plans and specifications will also be practiced.
Content: Residential/Commercial Carpentry
Population: General

460213 - Ceiling and Roof Framing

Grade Level: 9 - 12
Credits: 1
Description: This course covers roof types and combinations of roof types used in the construction industry. The emphasis of this course is on layout, cutting and installing ceiling joists, rafters, roof decking, and roof coverings.
Content: Residential/Commercial Carpentry
Population: General

460214 - Site Layout and Foundations

Grade Level: 9 - 12
Credits: 1
Description: Students will prepare materials, calculate the cost for a building site, and lay out a site with a transit, locating property lines and corners. Students calculate the amount of concrete needed for footing and foundation walls and construct different types of foundations and forms.
Content: Residential/Commercial Carpentry
Population: General

460215 - Construction Technology for Industrial Education Credit

Grade Level: 9 - 12
Credits: 1
Description: Additional instructional programs that prepare individuals to apply technical knowledge and skills in the construction cluster of programs.
Content: Construction Technology for Industrial Ed. Credit
Population: General

460216 - Interdisciplinary Geometry and Construction/Technology

Grade Level: 9 - 12
Credits: 1
Description: Two construction courses meet the required geometry credit and one construction credit.
Content: Construction Technology/Geometry for Geometry Requirement
Population: General

460241 - Building and Apartment Maintenance

Grade Level: 9 - 12
Credits: 1-6
Description: This course covers required safety practices in the shop and workplace; identification and use of hand tools used in the construction trades; identification of construction materials; interpretation of blueprints and/or drawings; and exposure to various mechanical and structural systems in a residential structure.
Content: Building and Apartment Maintenance
Population: General

460290 - Construction Trades, Other

Grade Level: 9 - 12
Credits: 1
Description: Additional instructional programs that prepare individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties.
Content: Construction Technology for Industrial Ed. Credit
Population: General

460298 - Special Topics, Construction Technology

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education Construction Cluster but not described in the above courses.
Content: Construction Technology for Industrial Ed. Credit
Population: General

460299 - Special Topics - Carpentry

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Carpentry but not described in the above courses.
Content: Residential/Commercial Carpentry
Population: General

Industrial Education - Electrical Technology
(460300)

460311 - DC Circuits

Grade Level: 9 - 12
Credits: 1
Description: Introduces the theory of electricity and magnetism, and the relationship of voltage, current, resistance, and power in electrical circuits. Circuit analysis techniques are stressed. DC circuits are analyzed using Ohm's Law, Kirchoff's Laws, and various network theorems.
Content: Electrical Technology
Population: General

460312 - Electrical Construction

Grade Level: 9 - 12
Credits: 1
Description: Involves the study of materials and procedures used in construction wiring.
Content: Electrical Technology
Population: General

460313 - Electrical Construction II

Grade Level: 9 - 12
Credits: 1
Description: Expands the knowledge and skills needed to work in commercial and industrial construction wiring.
Content: Electrical Technology
Population: General

460314 - AC Circuits

Grade Level: 9 - 12
Credits: 1
Description: The Alternating Current (AC) Circuits course is designed to develop an understanding of alternating current fundamentals and theory with emphasis on the study of reactance, resonance, RC, RL, RLC, transformers, phase angles and power factors. Students will apply formulas to analyze the operation of AC circuits.
Content: Electrical Technology
Population: General

460321 - Electrical Motor Controls I

Grade Level: 9 - 12
Credits: 1
Description: This course addresses the diversity of control devices and applications used in industry today. Safety and electrical lockouts are also included.
Content: Electrical Technology
Population: General

460399 - Special Topics - Electrical Technology

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Electrical Technology but not described in the above courses.
Content: Electrical Technology
Population: General

Industrial Education - Heavy Equipment
(460400)

460403 - Heavy Highway Construction Equipment Repair

Grade Level: 9 - 12
Credits: 1-5
Description: The maintenance of heavy highway equipment and the related studies in construction.
Content: Heavy Highway Construction
Population: General

460404 - Heavy Equipment Operation

Grade Level: 9 - 12
Credits: 1-5
Description: The operation of heavy equipment and the related studies in construction.
Content: Heavy Equipment Operation
Population: General

460499 - Special Topics - Heavy Equipment

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Heavy Equipment but not described in the above courses.
Content: Heavy Equipment Operation
Population: General

Industrial Education - Plumbing
(460500)

460511 - Introduction to Plumbing

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the origin and basic principles of the plumbing industry. Also included is the orientation of methods associated with the plumbing industry.
Content: Plumbing Technology
Population: General

460512 - Plumbing Systems

Grade Level: 9 - 12
Credits: 1
Description: This course presents a study of designing and sizing water distribution, drain, waste, and vent pipes, in addition to studies of code requirements and installation of common residential fixtures.
Content: Plumbing Technology
Population: General

460513 - Basic Plumbing Skills

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to basic pipe joining techniques.
Content: Plumbing Technology
Population: General

460514 - Bathroom Install

Grade Level: 9 - 12
Credits: 1
Description: This course will develop the skills necessary to rough-in and install a bathroom group and auxiliary fixtures for residential or commercial applications.
Content: Plumbing Technology
Population: General

460599 - Special Topics - Plumbing

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Plumbing Technology but not described in the above courses.
Content: Plumbing Technology
Population: General

Industrial Education - Environmental Technology
(460600)

460602 - Environmental Technology

Grade Level: 9 - 12
Credits: 1-6
Description: A science related program that focuses the instruction on environmental issues and possible solutions.
Content: Environmental Technology
Population: General

460699 - Special Topics - Environmental Technology

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Environmental Technology but not described in the above courses.
Content: Environmental Technology
Population: General

Industrial Education - HVAC/ Air Conditioning Technology (460800)

460816 - HVAC Electricity Lab

Grade Level: 9 - 12
Credits: 1
Description: Introduces students to the basic physics of electricity. Students apply Ohm's law; measure resistance, voltage, ohms, watts and amps; construct various types of electrical circuits; select wire and fuse sizes; and learn to troubleshoot an electric motor and motor controls.
Content: Air Conditioning Technology
Population: General

460817 - HVAC Electricity

Grade Level: 9 - 12
Credits: 1
Description: This course introduces students to the basic physics of electricity. Students apply Ohm's law; measure resistance, voltage, ohms, watts and amps; construct various types of electrical circuits; select wire and fuse sizes; and learn to troubleshoot an electric motor and motor controls.
Content: Air Conditioning Technology
Population: General

460843 - Window Air Conditioners

Grade Level: 9 - 12
Credits: 1
Description: The materials and lectures in this course will provide an understanding of window air conditioner safety, fundamentals, theory, terminology, controls operation, installation, seasonal maintenance, refrigerant recovery, schematic reading and troubleshooting techniques.
Content: Air Conditioning Technology
Population: General

460844 - Window Air Conditioners Lab

Grade Level: 9 - 12
Credits: 0
Description: This course offers repeated hands-on experience in window air conditioner safety, installation procedures, hand tool and meter usage, replacement of fans, testing dual capacitors, selector switches and thermostats, charging and refrigerant recovery procedures, diagnosing electrical and mechanical malfunctions, schematic reading and troubleshooting techniques.
Content: Air Conditioning Technology
Population: General

460890 - Special Topics - HVAC

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - HVAC but not described in the above courses.
Content: Air Conditioning Technology
Population: General

Industrial Education - Chemical Technology
(460900)

460915 - Chemical Technology Fundamentals

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to the technology used in chemical processing and testing. The student will learn about the fundamentals of pressure and fluid flow, temperature and heat flow, various unit operations and process equipment, measurement and control. The basic terminology of chemical technology and the procedures used by industry control operations such as safety procedures, record-keeping, standard operating procedures, and regulatory compliance are addressed. Emphasis is placed on developing good problem-solving and communication skills.
Content: Industrial Chemical Technology
Population: General

460916 - Chemical Technology Principles

Grade Level: 9 - 12
Credits: 1
Description: This course continues to address the principles of chemical technology as practiced in the chemical industry. Students will develop a more complete understanding of the technology by operating bench scale process equipment and applying the knowledge they gain to situations and problems which they might encounter in industry. Teamwork and problem-solving will be emphasized, as will the applications for operating procedures and safety. The course will include the use of statistical techniques, such as SPC, and the current trends in process control.
Content: Industrial Chemical Technology
Population: General

460917 - Environmental Practices

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to current chemical industry practice relative to environmental, health and safety issues, and the regulatory requirements which they have to follow in dealing with these issues.
Content: Industrial Chemical Technology
Population: General

460918 - Industrial Chemical Safety

Grade Level: 9 - 12
Credits: 1
Description: The student will receive training in the safety practices common in industry. The role of OSHA in

the workplace will be covered as will safety practices such as: Hazmat; Hazwoper; hazardous communications; electrical, machine, and chemical safety; confined space entry; lock-out/tag-out; blood borne pathogens; fire and noise protection; ladder and equipment safety; hand and power tool safety; and proper lifting techniques
Content: Industrial Chemical Technology
Population: General

460919 - Industrial Chemistry

Grade Level: 9 - 12
Credits: 1
Description: This course deals specially with chemistry as it is practiced in industry. The student will learn basic chemistry principles, laboratory techniques, procedures for measurements and testing, conversions and accuracy, the periodic table and its significance, chemical equations and reactions, molecular structures, and naming conventions.
Content: Industrial Chemical Technology
Population: General

460943 - Special Topics - Chemical Technology

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - Chemical Technology but not described in the above courses.
Content: Industrial Chemical Technology
Population: General

Industrial Education - Public Services/Protective Services (461000)

461011 - Basic Telecommunications

Grade Level: 9 - 12
Credits: 1
Description: This course is a study of basic emergency communications and of the federal and state laws that govern these communications; telephone and radio communications systems; communication documentation; emergency management; 911; stress and crisis management.
Content: Law Enforcement
Population: General

461012 - Bloodborne Pathogens

Grade Level: 9 - 12
Credits: 1
Description: This course provides bloodborne pathogens education for emergency responders, health professionals, and others who are subject to exposure, in the 1) transmission; 2) prevention and control; 3) treatment; 4) legal issues; and 5) attitudes and behavior regarding human infections, and covers requirements of OSHA 1910.1030.
Content: EMS Training
Population: General

461013 - Emergency Disaster Planning

Grade Level: 9 - 12
Credits: 1
Description: Commanding the Initial Response is designed to give the participant the information and skills necessary to establish command, perform size-up, develop and implement an action plan, transfer command, and organize an incident using an effective command system.
Content: Law Enforcement
Population: General

461014 - First Aid

Grade Level: 9 - 12
Credits: 1
Description: This course addresses the knowledge and skills for administering the first aid including the assessment and treatment of patients sustaining injury or sudden illness until a higher level of trained emergency care technician arrives.
Content: EMS Training
Population: General

461015 - Hazardous Materials Awareness

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to the principles of recognizing hazardous materials presence, protecting themselves from hazardous materials and calling for training/personnel, and securing the area safety.
Content: Fire Service Technology
Population: General

461016 - Introduction to Law, Public Safety & Security/Communications

Grade Level: 9 - 12
Credits: 1
Description: Instruction and experience is geared toward written and oral communication utilized in the law, public safety and security environment. Emphasis on clarity, correctness, conciseness, and effectiveness in preparing oral communication and written communications is integral. Listening skills, speaking techniques, and nonverbal communication is included.
Content: Law Enforcement
Population: General

461017 - Introduction to Law, Public Safety & Security/Legal Issues

Grade Level: 9 - 12
Credits: 1
Description: This course develops an understanding of the state and federal court systems. The student is introduced to civil and criminal law, government regulation, current events (local, national, international, and geographical) in personal law, legal terminology, and methods of researching legal citations.
Content: Law Enforcement
Population: General

461018 - Introduction to Law, Public Safety & Security/Physical Training

Grade Level: 9 - 12
Credits: 1
Description: This course is designed to give the student an overview of personal fitness and wellness; how to maintain good physical fitness and provide nutritional information. The course will also give the student an overview of the warning signs and how to deal with stress.
Content: Law Enforcement
Population: General

461019 - Legal Issues

Grade Level: 9 - 12
Credits: 1
Description: This course develops an understanding of the state and federal court systems. The student is

introduced to civil and criminal law, government regulation, current events (local, national, international, and geographical) in personal law, legal terminology, and methods of researching legal citations.
Content: Law Enforcement
Population: General

461021 - CPR

Grade Level: 9 - 12
Credits: 1
Description: This course provides the knowledge and skills for administering care for respiratory or cardiac arrest including airway, breathing, and circulation assessment and the procedures to eliminate blockage of the airway, provide breathing assistance, and cardiac compressions.
Content: EMS Training
Population: General

461022 - Emergency Medical Technician (EMT)

Grade Level: 9 - 12
Credits: 1
Description: This basic Emergency Medical Technician Course covers all knowledge aspects of trauma care as outlined by national standards, created by federal guidelines, considered to be the responsibilities of ambulance operations. Training involves typical anatomy and physiology; patient assessment; care for respiratory and cardiac emergencies; control of bleeding; application of dressing and bandages; treatment for traumatic shock; care for fractures, dislocation, sprains and strains; medical emergencies; emergency child birth; burns and heat emergencies; environmental emergencies; principles of vehicle rescue; transportation of patients and general operations of ambulance systems.
Content: EMS Training
Population: General

461023 - EMS Training

Grade Level: 9 - 12
Credits: 1-6
Description: Public Service Program that provides instruction in Emergency Medicine.
Content: EMS Training
Population: General

461031 - Fire Safety

Grade Level: 9 - 12
Credits: 1
Description: Public Service Program that provides instruction in Fire Science
Content: Fire Service Technology
Population: General

461032 - Firefighters Basic Skills I

Grade Level: 9 - 12
Credits: 1
Description: This course includes ropers, ladders, aircraft rescue, forcible entry, first aid, blood borne

pathogens, and emergency disaster planning, and CPR.
Content: Fire Service Technology
Population: General

461033 - Introduction to Fire Safety

Grade Level: 9 - 12
Credits: 1
Description: This course includes fire department organization, fire behavior, firefighter safety, personal protective equipment, portable fire extinguishers, fire hose, appliance and streams.
Content: Fire Service Technology
Population: General

461034 - Portable Fire Extinguishers

Grade Level: 9 - 12
Credits: 1
Description: Relates to the types, classification and use of fire extinguishers including the definitions utilized in rating each type and selection of a given extinguisher in attacking a particular class of fire.
Content: Fire Service Technology
Population: General

461041 - Basic Elements of Criminal Law

Grade Level: 9 - 12
Credits: 1
Description: This course will study the nature of criminal law, philosophical and historical development, and the classifications of crimes.
Content: Law Enforcement
Population: General

461042 - Basic Security Services

Grade Level: 9 - 12
Credits: 1
Description: This course includes history and philosophy of security; nature and impact of security; an overview of security systems; concepts and skills for security officers; security applications; and security of the future.
Content: Law Enforcement
Population: General

461043 - Criminal Investigation

Grade Level: 9 - 12
Credits: 1
Description: This course includes investigative theory, collection and preservation of evidence, and sources of information. Procedures for conducting interviews and interrogations; using of forensic sciences, and preparing for cases and trials.
Content: Law Enforcement
Population: General

461044 - Introduction to Criminal Justice

Grade Level: 9 - 12
Credits: 1
Description: This course studies the history and philosophy of criminal justice, ethical considerations, definition of crime, the nature and impact of crime, an overview of the criminal justice system including law enforcement and the court systems.
Content: Law Enforcement
Population: General

461045 - Law Enforcement

Grade Level: 9 - 12
Credits: 1-6
Description: Public Service Program that provides instruction in Law Enforcement
Content: Law Enforcement
Population: General

461046 - Security and Communications

Grade Level: 9 - 12
Credits: 1
Description: Instruction and experience is geared toward written and oral communication utilized in the law, public safety and security environment. Emphasis on clarity, correctness, conciseness, and effectiveness in preparing oral communication and written communications is integral. Listening skills, speaking techniques, and nonverbal communication is included.
Content: Law Enforcement
Population: General

461099 - Special Topics - Public Services/Protective Services

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Public/Protective Services but not described in the above courses. PLEASE NOTE: content for this course must be manually assigned.

Industrial Education - Industrial Electronics Technology (470100)

470115 - Devices and Circuits I

Grade Level: 9 - 12
Credits: 1
Description: This course combines theory and application in the study of semiconductor devices including: diodes, Zener diodes, bipolar junction transistors, field effect transistors, and circuits involved.
Content: Industrial Electronics Technology
Population: General

470116 - Digital Electronics

Grade Level: 9 - 12
Credits: 1
Description: Develops an understanding of fundamental digital principles including logic gates, Boolean algebra, flip-flops, register, combinational and sequential logic circuits and basic digital design techniques.
Content: Industrial Electronics Technology
Population: General

470117 - DC Circuits

Grade Level: 9 - 12
Credits: 1
Description: Introduces the theory of electricity and magnetism, and the relationship of voltage, current, resistance, and power in electrical circuits. Circuit analysis techniques are stressed. DC circuits are analyzed using Ohm's Law, Kirchoff's Laws, and various network theorems.
Content: Industrial Electronics Technology
Population: General

470118 - AC Circuits

Grade Level: 9 - 12
Credits: 1
Description: The Alternating Current (AC) Circuits course is designed to develop an understanding of alternating current fundamentals and theory with emphasis on the study of reactance, resonance, RC, RL, RLC, transformers, phase angles and power factors. Students will apply formulas to analyze the operation of AC circuits.
Content: Industrial Electronics Technology
Population: General

470119 - Devices and Circuits II

Grade Level: 9 - 12
Credits: 1
Description: Combines theory and applications in the study of operational amplifiers, oscillators, basic modulation circuitry, linear integrated circuits, thyristors, and regulated/switching power supplies.
Content: Industrial Electronics Technology
Population: General

470199 - Special Topics - Industrial Electronics

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Industrial Electronics but not described in the above courses.
Content: Industrial Electronics Technology
Population: General

Industrial Education - Major Appliance Repair (470200)

470211 - Commercial Refrigeration

Grade Level: 9 - 12
Credits: 1
Description: Develops techniques for servicing and troubleshooting mechanical and electromechanical refrigeration components. Electrical and refrigeration safety are emphasized. Proper tool use and environmentally sound refrigerant handling are taught.
Content: Major Appliance Technology
Population: General

470212 - Commercial Refrigeration Lab

Grade Level: 9 - 12
Credits: 0
Description: Techniques in servicing and troubleshooting mechanical and electromechanical refrigeration components, tool use, meter use, and environmentally sound refrigerant handling are practiced during "hands-on" lab situations.
Content: Major Appliance Technology
Population: General

470213 - Cooling and Dehumidification

Grade Level: 9 - 12
Credits: 1
Description: Explains the working characteristics of air conditioning units with air and water cooled condensers. Line, low voltage and pneumatic controls will also be covered. ARI - Air Conditioning Systems: Subtopics A-E; System Installation and Start-Up: Subtopic D; System Servicing and Troubleshooting: Subtopic D; Controls: Subtopic D.
Content: Major Appliance Technology
Population: General

470214 - Cooling and Dehumidification Lab

Grade Level: 9 - 12
Credits: 0
Description: The student will install, service, and troubleshoot air conditioning systems with water and air-cooled condensers and line and low voltage.
Content: Major Appliance Technology
Population: General

470215 - Electrical Components

Grade Level: 9 - 12
Credits: 1
Description: This course defines the electrical components of an air conditioning system. Different types of line voltages, wiring diagrams, and solid-state devices are included. Safety is emphasized.
Content: Major Appliance Technology
Population: General

470219 - Refrigeration Fundamentals

Grade Level: 9 - 12
Credits: 1
Description: Introduces the fundamentals of refrigeration, refrigeration terms, and the basic refrigeration cycle. Proper use of tools, test equipment, and materials is stressed. Environmental issues including refrigerant handling are discussed. Refrigerant piping and methods used to join them are taught. General and specific safety is emphasized.
Content: Major Appliance Technology
Population: General

470220 - Refrigeration Fundamentals Lab

Grade Level: 9 - 12
Credits: 0
Description: Develops proper hands-on techniques in the servicing and troubleshooting of basic systems. Proper use and care of tools, equipment, and materials is stressed. Enhances the skills and working knowledge of tubing, fitting, brazing, and soldering. Safety will be emphasized.
Content: Major Appliance Technology
Population: General

470221 - Special Topics - Major Appliance

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - Major Appliance Repair but not described in the above courses.
Content: Major Appliance Technology
Population: General

Industrial Education - Industrial Maintenance Technology (470300)

470311 - Applied Machining I

Grade Level: 9 - 12
Credits: 1
Description: Consists of intermediate level skills using machining machines and surface grinders. It will include the selection of grinding wheels. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced and properties of metals are discussed.
Content: Industrial Maintenance Technology
Population: General

470312 - Applied Machining II

Grade Level: 9 - 12
Credits: 1
Description: Carries the student to higher levels in the operation of machine tools. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced, and properties of metals are discussed.
Content: Industrial Maintenance Technology
Population: General

470313 - Fundamentals of Machine Tools-A

Grade Level: 9 - 12
Credits: 1
Description: This course provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, mills, and lathes.
Content: Industrial Maintenance Technology
Population: General

470314 - Fundamentals of Machine Tools-B

Grade Level: 9 - 12
Credits: 1
Description: This course provides intermediate skill development in machine tool technology. The course builds on basic skills developed in MTT 110, especially in the calculation of safe cutting speed and feed rates for the drill press, power saw, mills, and lathes. Shop safety, benchwork, and precision measurement are also emphasized.
Content: Industrial Maintenance Technology
Population: General

470315 - Manual Programming

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to CNC format and the Cartesian Coordinate System. It also introduces the student to CNC codes and programming, set-up and operation of CNC machine tools. The student will utilize process planning and manual programming for CNC equipment. The student will load a CNC program and set tool and work offsets.
Content: Industrial Maintenance Technology
Population: General

470317 - Basic Troubleshooting

Grade Level: 9 - 12
Credits: 1
Description: This course explores the science of troubleshooting and the importance of proper maintenance procedures; how to work well with others, aids in communication, and trade responsibilities; examines actual troubleshooting techniques, aids in troubleshooting, and how to use schematics and symbols; focuses on specific maintenance tasks such as solving mechanical and electrical problems, breakdown maintenance, and the hows and whys of planned maintenance.
Content: Industrial Maintenance Technology
Population: General

470318 - Maintaining Industrial Equipment I

Grade Level: 9 - 12
Credits: 1
Description: This course is designed to introduce the student to maintenance techniques and procedures used to maintain industrial equipment.
Content: Industrial Maintenance Technology
Population: General

470319 - Maintaining Industrial Equipment I Lab

Grade Level: 9 - 12
Credits: 0
Description: This course is designed to provide the student with lab experience in the maintenance of industrial equipment.
Content: Industrial Maintenance Technology
Population: General

470321 - Fluid Power

Grade Level: 9 - 12
Credits: 1
Description: This course is a study of fluid power theory, component identification and application, schematic reading, and basic calculations related to pneumatic and hydraulic systems and their operations.
Content: Industrial Maintenance Technology
Population: General

470325 - Fluid Power Lab

Grade Level: 9 - 12
Credits: 0
Description: This course provides practical experiences in the study of fluid power theory, hydraulics and pneumatics component identification, schematic reading, and basic calculations related to hydraulic and pneumatic systems and their operations.
Content: Industrial Maintenance Technology
Population: General

470326 - Advanced Pneumatic Systems

Grade Level: 9 - 12
Credits: 1
Description: Design, repair, and troubleshooting of pneumatic systems will be covered in this course. Lecture.
Content: Industrial Maintenance Technology
Population: General

470327 - Advanced Pneumatic Systems Lab

Grade Level: 9 - 12
Credits: 0
Description: This is a lab course to accompany MST 204.
Content: Industrial Maintenance Technology
Population: General

470332 - Basic Blueprint Reading

Grade Level: 9 - 12
Credits: .5
Description: This course presents basic applied math, lines, multiview drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Safety will be emphasized as an integral part of the course.
Content: Industrial Maintenance Technology
Population: General

470336 - Special Topics - Industrial Maintenance Technology

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - Industrial Maintenance Technology but not described in the above courses.
Content: Industrial Maintenance Technology
Population: General

470392 - Special Topics - Environmental Design Technology

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: PLEASE NOTE: This course is in STI but has been removed from the State Course List. Please use course number 460602 "Environmental Technology" instead.

Industrial Education - Diesel Technology
(470400)

470404 - Diesel Technology

Grade Level: 9 - 12
Credits: 1-6
Description: This program focuses on the skills needed to analyze malfunctions and repair, build and maintain construction equipment, farm equipment, or medium and heavy trucks. This program includes climate control, computer fundamentals, mechanical concepts, introduction to diesel engines, and introduction to maintenance welding. Leadership and professionalism will be provided through SkillsUSA and the Professional Development Program.
Content: Diesel Technology
Population: General

470411 - Commercial and Recreational Small Engine Technology / Marine Technology

Grade Level: 9 - 12
Credits: 1-6
Description: This course will focus on the student's practical information about lawn equipment, light commercial, marine and /or motorcycle engine construction, operation, lubrication, maintenance, troubleshooting, service, rebuilding, and repair. Leadership and professionalism will be developed through SkillsUSA and the Professional Development Program.
Content: Commercial and Recreational Small Engine Technology
Population: General

470421 - Introduction To Diesel Engines

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the fundamental concepts of the operation of two- and four-stroke diesel and gasoline engines. Topics included are basic engine components and their functions, engine performance terminology, two-and four-stroke operation, combustion principles, and engine disassembly with basic hand tools.
Content: Diesel Technology
Population: General

470423 - Diesel Engine Repair

Grade Level: 9 - 12
Credits: 1
Description: This course provides a series of lectures and demonstrations on the fundamentals of engine

repair, troubleshooting, and engine operation and maintenance.
Content: Diesel Technology
Population: General

470424 - Steering and Suspension

Grade Level: 9 - 12
Credits: 1
Description: The theory and operation of steering and suspension systems are presented including manual steering, power steering, springs and supports, steering linkage and alignment.
Content: Diesel Technology
Population: General

470425 - Electrical System Diesel

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to the principles, theories, and concepts of the automotive electrical system that include the unique diagramming, coding and locating of wiring, and component devices.
Content: Diesel Technology
Population: General

470499 - Special Topics - Diesel Technology

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Diesel Technology but not described in the above courses.
Content: Diesel Technology
Population: General

Industrial Education - Automotive Technology
(470500)

470547 - Climate Control

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the theory and operation of heating and air conditioning systems. Air conditioning terminology and how to service and troubleshoot mechanical and electrical circuits of heating and air conditioning systems are emphasized.
Content: Automotive Technology
Population: General

470548 - Climate Control Lab

Grade Level: 9 - 12
Credits: 0
Description: This course presents opportunities to troubleshoot, repair and perform maintenance on heating and air conditioning systems. Safety precautions, special tool uses, component operation, and how to service and troubleshoot the complete system will be experienced.
Content: Automotive Technology
Population: General

470550 - Brake Systems

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the theory and operation of air and hydraulic braking systems. This will include components such as: air and hydraulic actuators, air brake chambers, disc drums, linings, and brake adjustments
Content: Automotive Technology
Population: General

470551 - Brake Systems Lab

Grade Level: 9 - 12
Credits: 0
Description: This course provides opportunities for students to troubleshoot and repair brake components as well as complete air and hydraulic brake systems including air and hydraulic actuators, disc brakes, drum brakes, linings and maintenance.
Content: Automotive Technology
Population: General

470553 - Suspension and Steering

Grade Level: 9 - 12
Credits: 1
Description: This course presents the automotive suspension system, the diagnosing of suspension problems, identifying components, recognizing tire wear problems, wheel balancing, and the use of alignment equipment.
Content: Automotive Technology
Population: General

470554 - Suspension and Steering Lab

Grade Level: 9 - 12
Credits: 0
Description: This course develops skill in the diagnosis and repair of automotive suspension systems, wheel alignment, and wheel balancing.
Content: Automotive Technology
Population: General

470556 - Basic Automotive Electricity

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to the principles, theories, and concepts of the automotive electrical system that include the unique diagramming, coding and locating of wiring, and component devices.
Content: Automotive Technology
Population: General

470557 - Basic Automotive Electricity Lab

Grade Level: 9 - 12
Credits: 0
Description: This course is a hands-on class designed to allow the student to use the concepts, principles, and theories covered in Basic Automotive Electricity ADX 120 in practical application.
Content: Automotive Technology
Population: General

470558 - Basic Fuel and Ignition Systems

Grade Level: 9 - 12
Credits: 1
Description: This course presents the theory, component identification, application, operation, and the service and repair of the basic automotive ignition, fuel, and emission systems, including related components.
Content: Automotive Technology
Population: General

470559 - Basic Fuel and Ignition Systems Lab

Grade Level: 9 - 12
Credits: 0
Description: This course develops skills necessary to diagnose and repair the automotive basic ignition, fuel, and emission systems and related components.
Content: Automotive Technology
Population: General

470560 - Computer Control Systems and Diagnosis

Grade Level: 9 - 12
Credits: 1
Description: This course presents the comprehensive diagnostics of on-board computer control systems, including distributorless ignition systems. The problem solving process, including flow chart reading, will be presented.
Content: Automotive Technology
Population: General

470561 - Computer Control Systems and Diagnosis Lab

Grade Level: 9 - 12
Credits: 0
Description: This course develops skills necessary to diagnose and repair drivability problems associated with on-board computer control systems.
Content: Automotive Technology
Population: General

470562 - Electrical Systems

Grade Level: 9 - 12
Credits: 1
Description: This course focuses on the theory and principles relating to automotive electrical/electronic components.
Content: Automotive Technology
Population: General

470563 - Electrical Systems Lab

Grade Level: 9 - 12
Credits: 0
Description: This course provides practical applications and experiences related to the theory and principles of automotive electrical/electronic components
Content: Automotive Technology
Population: General

470564 - Emission Systems

Grade Level: 9 - 12
Credits: 1
Description: This course presents the theory, component identification, application, operation, and the service and repair of advanced automotive ignition, fuel, and emission systems, including related components.

Content: Automotive Technology
Population: General

470565 - Emission Systems Lab

Grade Level: 9 - 12
Credits: 0
Description: This course develops skills necessary to diagnose, service and repair automotive advanced ignition, fuel, and emission systems, including related components.
Content: Automotive Technology
Population: General

470566 - Special Topics - Automotive Technology

Grade Level: 9 - 12
Credits: 1
Description: Instruction related to Industrial Education - Automotive Technology but not described in the above courses.
Content: Automotive Technology
Population: General

Industrial Education - Auto Body Technology/ Collision Repair and Refinish
(470600)

470631 - Introduction to Auto Body

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to safety, sanding, grinding, pulling, roughing and filling; the use of tools and equipment; and preparing and priming automotive panels through lectures and demonstrations.
Content: Collision Repair and Refinish Technology
Population: General

470632 - Auto Body Technology/ Collision Repair and Refinish

Grade Level: 9 - 12
Credits: 1-6
Description: This program includes introduction to auto body repair, non-structural analysis and damage repair, structural analysis and damage repair, and painting and refinishing. Leadership and professionalism will be provided through SkillsUSA and the Professional Development Program.
Content: Collision Repair and Refinish Technology
Population: General

470633 - Non-Structural Damage Repair I

Grade Level: 9 - 12
Credits: 1
Description: This course gives instruction and provides practical experience in replacing and aligning bolts on automotive parts such as doors, hoods, and fenders; as well as instruction on the repair and replacement of non-structural weld-on automotive panels by aligning, welding, cutting, and drilling through demonstrations and lectures. It will be taught by demonstration and hands-on practice. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.
Content: Collision Repair and Refinish Technology
Population: General

470634 - Paint and Refinish Lab I

Grade Level: 9 - 12
Credits: 1
Description: This course provides instruction in the use of lacquer, acrylic enamel and base coat/clear coat

refinishing products, masking procedures, preparations and paint problems. It will be taught by demonstration and lecture. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.
Content: Collision Repair and Refinish Technology
Population: General

470635 - Plastics and Adhesives

Grade Level: 9 - 12
Credits: 1
Description: This course will be designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area.
Content: Collision Repair and Refinish Technology
Population: General

470699 - Special Topics - Auto Body Repair

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Auto Body Repair but not described in the above courses.
Content: Collision Repair and Refinish Technology
Population: General

Industrial Education - Aviation Technology
(470700)

470704 - Aviation Technology

Grade Level: 9 - 12
Credits: 1-6
Description: Instruction in aviation careers, aviation history, air traffic control, aircraft maintenance, aerodynamics and flight is the basis for this program. Knowledge of various aircraft systems, maintenance practices, and flight principles are used to develop skills in troubleshooting, and problem solving. Leadership and professionalism will be provided through SkillsUSA and the Professional Development Program.
Content: Aviation Technology
Population: General

470705 - Flight

Grade Level: 9 - 12
Credits: 1-6
Description: The theory and operation of aviation flight.
Content: Aviation Technology
Population: General

470771 - Maintenance A&P

Grade Level: 9 - 12
Credits: 1-6
Description: The theory and operation of aviation maintenance.
Content: Aviation Technology
Population: General

470799 - Special Topics - Aviation Technology

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Aviation Technology but not described in the above courses.
Content: Aviation Technology
Population: General

Industrial Education - Small Engines/Motorcycle Technology (470800)

470812 - Basic Small Engine Theory

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to the principles of construction and operation of internal combustion engines including the definitions of the following trade terms: valve overlap, reed value, two-stroke cycle engine and four-stroke cycle engine.
Content: Commercial and Recreational Small Engine Technology
Population: General

470813 - Basic Small Engine Lab

Grade Level: 9 - 12
Credits: 0
Description: This course provides applications of the theory presented in SET 110. It includes hands-on experience, step-by-step procedures for disassembling engines, identification of engine components, inspection of parts, performing precision measurements on crankshaft, cylinder bore and valves, and the reassembly of the engines.
Content: Commercial and Recreational Small Engine Technology
Population: General

470814 - Four-Stroke Cycle Engine

Grade Level: 9 - 12
Credits: 1
Description: This course presents theory, repair, and overhaul methods of four-cycle engines. The student will learn to inspect engines for problems, follow service manuals for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance, and valve train components. The student will use special tools including a cylinder hone, valve guide reamer, valve seat cutter, and valve grinder, and demonstrate safety practices while using this equipment.
Content: Commercial and Recreational Small Engine Technology
Population: General

470815 - Four-Stroke Cycle Engine Lab

Grade Level: 9 - 12
Credits: 0
Description: In this course, students repair and overhaul four-cycle engines, inspect engines for problems, follow service manual specifications needed for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance and valve training components. Students will use the following special tools: cylinder hone, valve guide reamer, valve seat cutter, and valve grinder. Safety practices will be observed while

using the equipment.
Content: Commercial and Recreational Small Engine Technology
Population: General

470816 - Fuel Systems

Grade Level: 9 - 12
Credits: 1
Description: This course introduces fuel systems used on two-cycle and four-cycle engines: the basic types, components, the types of carburetors, the types of fuel filters, and the types of fuel pumps and air filters.
Content: Commercial and Recreational Small Engine Technology
Population: General

470817 - Fuel Systems Lab

Grade Level: 9 - 12
Credits: 0
Description: This course provides hands-on experience with fuel systems. The student will diagnose carburetor problems, rebuild diaphragm-type and float type carburetors, test carburetors, and make needed adjustments, and adjust the governor according to manufacturers' specifications on two-cycle and four-cycle engines.
Content: Commercial and Recreational Small Engine Technology
Population: General

470818 - Fundamentals of Mathematics

Grade Level: 9 - 12
Credits: 1
Description: This course concentrates on basic math and is designed to assist the student in mastering and applying math skills in the areas of whole numbers, fractions, decimals, percentages, basic measurements, simple equations, ratio and proportions, computed measurements, tables and graphs, and use of the hand-held calculator.
Content: Commercial and Recreational Small Engine Technology
Population: General

470819 - Ignition/Charging Systems

Grade Level: 9 - 12
Credits: 1
Description: This course presents ignition/charging systems theory, the principle of operation of a generator/alternator system, and component identification and application.
Content: Commercial and Recreational Small Engine Technology
Population: General

470820 - Ignition/Charging Systems Lab

Grade Level: 9 - 12
Credits: 0
Description: This course presents hands-on experience with ignition/charging systems, the principle of operation of a generator/alternator system, and component identification and application.

Content: Commercial and Recreational Small Engine Technology
Population: General

470821 - Introduction to Small Engine Repair

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to small engines and their various applications. Also included are the identification and demonstration of hand tools, special tools, and measuring tools. It covers the selection and use of shop manuals and applying safety procedures when working with small engines.
Content: Commercial and Recreational Small Engine Technology
Population: General

470822 - Two-Stroke Cycle Engine

Grade Level: 9 - 12
Credits: 1
Description: This course presents theory, repair, and overhaul methods of two-stroke cycle engines. Students learn to inspect engines for problems, follow a service manual for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance, and valve training components. This course introduces students to the following special tools: cylinder hone, valve guide reamer, valve seat cutter, and valve grinder. Safety practices will be observed while using equipment.
Content: Commercial and Recreational Small Engine Technology
Population: General

470823 - Two-Stroke Cycle Engine Lab

Grade Level: 9 - 12
Credits: 0
Description: Students repair and overhaul two-cycle engines. Students disassemble, inspect, and service cylinder, piston rings and connecting rod, crankshaft and crankcase assembly, and demonstrate effective safety practices while using special equipment. Students also reassemble and test engines and components to standards set by manufacturer.
Content: Commercial and Recreational Small Engine Technology
Population: General

470833 - Clutches and Starters

Grade Level: 9 - 12
Credits: 1
Description: Upon completion of this course the student will be able to discuss starter systems found on motorcycles and have a working knowledge of servicing kick and electric starters. The student will also be able to identify parts of a clutch, discuss guidelines for clutch service, and be able to remove, disassemble, inspect, and reassemble a motorcycle clutch.
Content: Commercial and Recreational Small Engine Technology
Population: General

470834 - Welding for Small Engines

Grade Level: 9 - 12
Credits: 1
Description: This class introduces students to the art and science of welding. Students learn to prepare the equipment and to perform basic welding operations.
Content: Commercial and Recreational Small Engine Technology
Population: General

470835 - Engine Tune-Up

Grade Level: 9 - 12
Credits: 1
Description: After completion of this course the student will be able to perform motorcycle engine tune-ups including: ignition systems, replacing points and condensers, adjusting and verifying timing and service guidelines.
Content: Commercial and Recreational Small Engine Technology
Population: General

470836 - Special Topics - Small Engines

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - Small Engines but not described in the above courses.
Content: Commercial and Recreational Small Engine Technology
Population: General

470837 - Motorcycle Chassis

Grade Level: 9 - 12
Credits: 1
Description: After completion of this course, the student will be able to identify front fork components and service procedures for the steering assembly. The student will be able to identify the service requirements for final drives and the front fork. Instruction will be given in the inspection of brake systems, safe handling of brake fluid, replacing brake shoes and pads, and bleeding hydraulic brake systems.
Content: Commercial and Recreational Small Engine Technology
Population: General

470838 - Introduction to Motorcycle Technology

Grade Level: 9 - 12
Credits: 1
Description: This course will introduce the student to motorcycle repair. It will cover the career of the motorcycle repair technician, including entry level skills, advancement opportunities, and activities performed at a dealership. Safe working practices, accident prevention, proper lifting, and recognizing typical hazards around a motorcycle service department will be stressed
Content: Commercial and Recreational Small Engine Technology
Population: General

470839 - Tools and Measurements

Grade Level: 9 - 12
Credits: 1
Description: After completing this course the student will be able to list and demonstrate the ability to use the tools of the motorcycle technician, including hand tools, power tools, measuring instruments, and specialty tools.
Content: Commercial and Recreational Small Engine Technology
Population: General

Industrial Education - Machine Tool Technology
(470900)

470911 - Applied Machining I

Grade Level: 9 - 12
Credits: 1
Description: Consists of intermediate level skills using machining machines and surface grinders. It will include the selection of grinding wheels. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced and properties of metals are discussed.
Content: Machine Tool Technology
Population: General

470912 - Applied Machining II

Grade Level: 9 - 12
Credits: 1
Description: Carries the student to higher levels in the operation of machine tools. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced, and properties of metals are discussed.
Content: Machine Tool Technology
Population: General

470913 - Fundamentals of Machine Tools-A

Grade Level: 9 - 12
Credits: 1
Description: This course provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, mills, and lathes.
Content: Machine Tool Technology
Population: General

470914 - Fundamentals of Machine Tools-B

Grade Level: 9 - 12
Credits: 1
Description: This course provides intermediate skill development in machine tool technology. The course builds on basic skills developed in MTT 110, especially in the calculation of safe cutting speed and feed rates for the drill press, power saw, mills, and lathes. Shop safety, benchwork, and precision measurement are also emphasized.
Content: Machine Tool Technology
Population: General

470915 - Manual Programming

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the student to CNC format and the Cartesian Coordinate System. It also introduces the student to CNC codes and programming, set-up and operation of CNC machine tools. The student will utilize process planning and manual programming for CNC equipment. The student will load a CNC program and set tool and work offsets.
Content: Machine Tool Technology
Population: General

470916 - Special Topics - Machine Tool Technology

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - Machine Tool Technology but not described in the above courses.
Content: Machine Tool Technology
Population: General

Industrial Education - CAD / Drafting Technology
(480100)

480110 - CAD I

Grade Level: 9 - 12
Credits: 1
Description: This combined lecture and lab course is designed to introduce the student to the terminology, capabilities, and various applications of interactive computer graphics. It involves hands-on use with a graphic design workstation and the application of the fundamentals of computer assisted drafting. This course emphasizes skill development of basic computer drafting commands, techniques exploration, and in-depth study of command utilization as they apply to industrial applications.
Content: Computer Aided Drafting
Population: General

480111 - Basic Drafting

Grade Level: 9 - 12
Credits: 1
Description: This course introduces students to the application of elements and principles of design and the development of studio skills. These skills include conceptualizing and translating ideas into visual form through the use of thumbnails, roughs, and full-sized marker comps.
Content: Drafting
Population: General

480112 - CAD II

Grade Level: 9 - 12
Credits: 1
Description: This course is designed to introduce the student to creating symbol libraries and symbol construction. The student will learn construction of assembly drawings through file manipulation and demonstrate advanced command structure. It allows the student to explore computer drafting in-depth and to increase skill. This course will introduce the student to 3D solid models. It will allow the student to use the advanced functions of rendering.
Content: Computer Aided Drafting
Population: General

480113 - Basic Drafting II

Grade Level: 9 - 12
Credits: 1
Description: This is an in-depth study of advanced industrial dimensioning principles, tolerances, fits, and ANSI standards. The shape and geometric characteristics of parts will be explored through geometric tolerancing. The student will also study the basic fundamentals of precision measurement and its application in

the industrial setting.
Content: Drafting
Population: General

480114 - Interdisciplinary Geometry and Computer Aided Drafting (CAD)

Grade Level: 9 - 12
Credits: 1
Description: Two computer aided drafting (CAD) courses meet the required geometry credit and one CAD credit.
Content: Computer Aided Drafting for Geometry Requirement
Population: General

480125 - Selected Topics in Geographical Information Systems

Grade Level: 9 - 12
Credits: 1
Description: Selected topics in Geographical Information Systems, due to rapidly changing technology or in response to local needs, will be offered in this course. Topics may vary from semester at the discretion of the instructor including topics such as but not limited to homeland security, agriculture, government applications, remote sensing, spatial modeling, GPS techniques, or cartography. Course may be repeated with different topics to a maximum of six credit hours.
Content: Computer Aided Drafting
Population: General

480126 - Program Design and Development

Grade Level: 9 - 12
Credits: 1
Description: PLEASE NOTE: This course is in STI but has been removed from the State Course List. Please use course number 110252 "Special Topics - Programming" instead.

480128 - Introduction to Database Design

Grade Level: 9 - 12
Credits: 1
Description: PLEASE NOTE: This course is in STI but has been removed from the State Course List. Please use course number 110252 "Special Topics - Programming" instead.

480130 - Visual Basic I

Grade Level: 9 - 12
Credits: 1
Description: PLEASE NOTE: This course is in STI but has been removed from the State Course List. Please use course number 110252 "Special Topics - Programming" instead.

480132 - GIS Software Tools

Grade Level: 9 - 12
Credits: 1
Description: GIS extensions are software modules that plug into the core product to deliver powerful added functionality. This class introduces some of the most popular advanced extensions used for network analysis, spatial analysis, and 3D Analysis.
Content: Computer Aided Drafting
Population: General

480133 - Introduction to Geographical Information System

Grade Level: 9 - 12
Credits: 1
Description: This is an introductory course designed to relate the basic theories and concepts of geographical information systems. Basic GIS capabilities, data collection, data types, GPS, and basic mapping concepts are discussed. Students will be introduced to GIS software using industry specific applications and technology in order to provide a conceptual base to build expertise in GIS.
Content: Computer Aided Drafting
Population: General

480134 - Special Topics - GIS

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - GIS but not described in the above courses.
Content: Computer Aided Drafting
Population: General

480141 - Construction Prints

Grade Level: 9 - 12
Credits: .5
Description: This course will provide a series of lectures, demonstrations, and practice exercises in the study of symbols, views, sections, details, and material lists found on architectural working drawings, building materials and specifications lists, and construction dimensioning systems and charts/schedules.
Content: Drafting
Population: General

480198 - Special Topics - Drafting

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Drafting but not described in the above courses.
Content: Drafting
Population: General

480199 - Special Topics - CAD

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - CAD but not described in the above courses.
Content: Computer Aided Drafting
Population: General

Industrial Education - Visual Communication Art (480200)

480211 - Visual Communication Art

Grade Level: 9 - 12
Credits: 1-6
Description: This program includes keyboarding, computer fundamentals, fundamentals of drawing, traditional layout and graphic design, and color theory applications. Leadership and professionalism will be provided through SkillsUSA and the Professional Development Program.
Content: Visual Communication Art Technology
Population: General

480212 - Drawing I

Grade Level: 9 - 12
Credits: 1
Description: Students must learn to "see" as an artist and simplify visual information for translation into visual form. Special emphasis is placed on "how to" create form in space and drawing people, places, and objects in proper perspective. Reproduction-quality line art must be produced without flaws or imperfections.
Content: Visual Communication Art Technology
Population: General

480213 - Advertising Design

Grade Level: 9 - 12
Credits: 1
Description: Students will understand and review the functions of advertising and major media forms. Students will apply design principles to develop strategic design concepts and solutions.
Content: Visual Communication Art Technology
Population: General

480214 - Layout and Graphic Design

Grade Level: 9 - 12
Credits: 1
Description: This course introduces students to the application of elements and principles of design and the development of studio skills. These skills include conceptualizing and translating ideas into visual form through the use of thumbnails, roughs, and full-sized marker comps.
Content: Visual Communication Art Technology
Population: General

480215 - Introduction Visual Communication Art

Grade Level: 9 - 12
Credits: 1
Description: This course introduces students to the application of elements and principles of design and the development of studio skills. These skills include conceptualizing and translating ideas into visual form through the use of thumbnails, roughs, and full-sized marker comps.
Content: Visual Communication Art Technology
Population: General

480216 - Computer Illustration I

Grade Level: 9 - 12
Credits: 1
Description: Students use a computer as an electronic drawing tool to solve visual communications and illustration problems in designing promotional materials. This course entails the use of software for illustration applications including using freeform tools; creating text; using color, layers, fills, and templates; importing and exporting files; printing and color separation.
Content: Visual Communication Art Technology
Population: General

480299 - Special Topics - Visual Communication Art

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Visual Communication Art but not described in the above courses.
Content: Visual Communication Art Technology
Population: General

Industrial Education - Printing Technology
(480300)

480321 - Press I

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the proper method of operating an offset duplicator including adjustments needed to produce quality printed products.
Content: Printing Technology
Population: General

480322 - Computer Illustration I

Grade Level: 9 - 12
Credits: 1
Description: Students use a computer as an electronic drawing tool to solve visual communications and illustration problems in designing promotional materials. This course entails the use of software for illustration applications including using freeform tools; creating text; using color, layers, fills, and templates; importing and exporting files; printing and color separation.
Content: Printing Technology
Population: General

480323 - Computer Layout and Design

Grade Level: 9 - 12
Credits: 1
Description: Students will understand and apply concepts and mechanics of page layout. This course provides practical application in the operation and development of skills in electronic publishing using software packages and operating systems.
Content: Printing Technology
Population: General

480324 - Typography

Grade Level: 9 - 12
Credits: 1
Description: This course will introduce the elements and uses of typographic design including selection of type styles, fonts, and methods of type specification.
Content: Printing Technology
Population: General

480325 - Graphic Communication

Grade Level: 9 - 12
Credits: 1
Description: This course introduces printing processes and develops graphic communication concepts and vocabulary. Includes: color applications, characteristics of paper, safety, and copyright laws.
Content: Printing Technology
Population: General

480399 - Special Topics - Printing Technology

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Printing Technology but not described in the above courses.
Content: Printing Technology
Population: General

Industrial Education - Telemedia
(480400)

480412 - Desktop Publishing

Grade Level: 9 - 12
Credits: 1-6
Description: This program includes basic touch keyboarding, computer fundamentals, introduction to graphic communications, design, layout, and paste-up, typography and typesetting, and desktop publishing for graphics. WILL BE MOVED TO 480602 in 08-09 school year.
Content: Desktop Publishing
Population: General

480413 - Multimedia Technology

Grade Level: 9 - 12
Credits: 1-6
Description: This program includes business English, professional development, keyboarding, microprocessor operating systems, audio and video systems, Internet and intranet applications and computer networking concepts. Leadership and professionalism will be provided through SkillsUSA and Professional Development Program. WILL BE MOVED TO 480603 in 08-09 school year.
Content: Multimedia Technology
Population: General

480421 - Video Editing

Grade Level: 9 - 12
Credits: .5
Description: Prepare linear tapes for editing
Content: Telemedia Technology
Population: General

480422 - Telecommunications Advanced

Grade Level: 9 - 12
Credits: .5
Description: Students will demonstrate how to script a show using simple storyboard format.
Content: Telemedia Technology
Population: General

480423 - Sound Production

Grade Level: 9 - 12
Credits: .5
Description: Identify/operate audio console

Content: Telemedia Technology
Population: General

480424 - Fundamentals of Broadcasting

Grade Level: 9 - 12
Credits: .5
Description: Students will demonstrate knowledge of various production crew jobs and their functions.
Content: Telemedia Technology
Population: General

480499 - Special Topics - Telemedia/Multimedia

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education but not described in the above courses.
Content: Telemedia Technology
Population: General

Industrial Education - Welding
(480500)

480521 - SMAW

Grade Level: 9 - 12
Credits: 1
Description: This course provides experiences in which students acquire the manipulative skills to do groove welds in all positions with backing.
Content: Welding
Population: General

480522 - Gas Metal Arc Welding

Grade Level: 9 - 12
Credits: 1
Description: This course is designed to teach students the identification, inspection, and maintenance of GMAW machines; identification, selection and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as FCAW and SAW and metallurgy are also included.
Content: Welding
Population: General

480523 - Oxy-Fuel Systems

Grade Level: 9 - 12
Credits: 1
Description: This course is designed to provide the student with a working knowledge of: oxy-fuel identification, set-up, inspection, and maintenance; consumable identification, selection and care; principles of operation; and effects of variables for manual and mechanical oxyfuel cutting, welding, brazing principles and practice, and metallurgy, shop safety and equipment use are also covered.
Content: Welding
Population: General

480524 - Basic Welding

Grade Level: 9 - 12
Credits: .5
Description: This class introduces the student to the art and science of welding. Students learn to prepare the equipment and to perform basic welding operations. (WEX 120/121 may be substituted for WEX 151)
Content: Welding
Population: General

480525 - Gas Tungsten Arc

Grade Level: 9 - 12
Credits: 1
Description: This course is designed to teach students the identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; the effects of variables on the GTAW process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting.
Content: Welding
Population: General

480599 - Special Topics - Welding

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Welding but not described in the above courses.
Content: Welding
Population: General

Industrial Education - Multimedia Technology
(480600)

480602 - Desktop Publishing

Grade Level: 9 - 12
Credits: 1-6
Description: This program includes basic touch keyboarding, computer fundamentals, introduction to graphic communications, design, layout, and paste-up, typography and typesetting, and desktop publishing for graphics. PLEASE NOTE: this course is not in STI/Infinite Campus for the 07-08 school year. Please link to 480412.
Content: Desktop Publishing
Population: General

480603 - Multimedia Technology

Grade Level: 9 - 12
Credits: 1-6
Description: This program includes business English, professional development, keyboarding, microprocessor operating systems, audio and video systems, Internet and intranet applications and computer networking concepts. Leadership and professionalism will be provided through SkillsUSA and Professional Development Program. PLEASE NOTE: this course is not in STI/Infinite Campus for the 07-08 school year. Please link to 480413.
Content: Multimedia Technology
Population: General

480611 - Introduction to Computers

Grade Level: 9 - 12
Credits: 1
Description: The impact of computers on society, and ethical issues are presented. Students use a microcomputer and application software, including word processing, database, spreadsheets, and the Internet, to prepare elementary documents and reports.
Content: Multimedia Technology
Population: General

480612 - Introduction to Graphic Communication

Grade Level: 9 - 12
Credits: 1
Description: This course introduces printing processes and develops graphic communication concepts and vocabulary. Includes: color applications, characteristics of paper, safety, and copyright laws.
Content: Multimedia Technology
Population: General

480613 - Design Layout and Pasteup

Grade Level: 9 - 12
Credits: 1
Description: This course focuses on the principles of design, how to make a layout, and how to read and write specifications needed for a job to be printed; introduces the theory and provides hands-on practice for the proper method of placing copy in the correct position on a pasteup board in order to complete the printing process.
Content: Multimedia Technology
Population: General

480614 - Internet and Intranet Applications

Grade Level: 9 - 12
Credits: 1
Description: Internet and Intranet Applications develop skills in using the capabilities and tools of the Internet to research, communicate, and find relevant information. Organizing and placing information intranets within business organizations are introduced.
Content: Multimedia Technology
Population: General

480615 - Introduction to Multimedia

Grade Level: 9 - 12
Credits: 1
Description: Introduction to Multimedia explores multimedia concepts and vocabulary.
Content: Multimedia Technology
Population: General

480616 - Multimedia Audio and Video

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the principles leading to advanced techniques for digital video acquisition, non-linear editing techniques, and utilization of video images in the World Wide Web.
Content: Multimedia Technology
Population: General

480617 - Typography and Typesetting

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the principles of typography focusing on electronic typesetting, type, parameters of software/hardware and how they can be used to produce quality type; also includes studies of advanced typesetting commands and pagination utilizing composition skills, file management, and other options.
Content: Multimedia Technology
Population: General

480618 - Typography and Typesetting Lab

Grade Level: 9 - 12
Credits: 1
Description: This course provides hands-on experience with electronic typesetting equipment, advanced typesetting commands, file management, tools, and other options.
Content: Multimedia Technology
Population: General

480619 - Special Topics - Multimedia Technology

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - Multimedia Technology but not described in the above courses.
Content: Multimedia Technology
Population: General

480631 - Audio/Video Editor Assistant

Grade Level: 9 - 12
Credits: 1
Description: This course relates to processes and procedures utilized in radio and television production. Major focus is on editing of audio recordings and videos. Other topics may include operation of recording equipment, video tape development, and script writing.
Content: Multimedia Technology
Population: General

480632 - Communication Technology

Grade Level: 9 - 12
Credits: 1
Description: All aspects of communications technology used in the global business environment are presented. Areas include use of presentations software; a basic understanding of voice recognition software; planning and composition of written, oral, and electronic communications; grammar, punctuation, and spelling; and principles of proofreading, both manual and electronic.
Content: Multimedia Technology
Population: General

Industrial Education - Wood Manufacturing Technology (480700)

480711 - Panel Technology

Grade Level: 9 - 12
Credits: 1
Description: This course is an overview of the terminology, materials, processing equipment and related software utilized by panel processing manufacturers of residential and commercial case work. Emphasis will be placed on the design and fabrication of frameless cabinetry to the use of panel saws, edgebanders, CNC boring equipment, and case clamps.
Content: Wood Manufacturing Technology
Population: General

480712 - Computer Applications (Wood)

Grade Level: 9 - 12
Credits: 1
Description: Students learn about the operation of the computer hardware components, PC operating systems, and software applications. Fundamentals of the Microsoft Windows operating systems are covered along with MS-DOS essentials. Students are introduced to word processing, spreadsheet, and database applications using Microsoft Office.
Content: Wood Manufacturing Technology
Population: General

480721 - Furniture Technology

Grade Level: 9 - 12
Credits: 1
Description: Furniture design principles, structural considerations, joinery, fasteners, veneering, and use of specialized machines for complex operations are the focus of this course. Each student will plan and build a piece of furniture which includes at least one drawer, a door and some veneering.
Content: Wood Manufacturing Technology
Population: General

480731 - Cabinet Making Technology

Grade Level: 9 - 12
Credits: 1
Description: This course is an overview of the cabinet and store fixture industries. Emphasis will be placed on the design and construction of face frame as well as frameless (32mm) systems. Each student will plan and build a vanity, kitchen cabinet, or store fixture which utilizes contemporary casework techniques.
Content: Wood Manufacturing Technology
Population: General

480740 - Wood Products Manufacturing

Grade Level: 9 - 12
Credits: 1
Description: Fundamentals of wood processing and an overview of the secondary wood processing industry are covered in this course. The nature of wood, material selection, terminology, safe setup, and operation of common woodworking equipment will be discussed. Each student will fabricate a wood product while being introduced to custom woodworking techniques, as well as mass production concepts related to product engineering.
Content: Wood Manufacturing Technology
Population: General

480799 - Special Topics - Wood Manufacturing Technology

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Wood Manufacturing Technology but not described in the above courses.
Content: Wood Manufacturing Technology
Population: General

Industrial Education - Metal Fabrication (480800)

480811 - TQM

Grade Level: 9 - 12
Credits: 1
Description: Introduces the student to fundamental of TQM (Total Quality Management) principles and techniques as an integral part of the business environment. Teamwork and team-building strategies are discussed and are incorporated into the framework of the instruction as well as a few team-building exercises.
Content: Metal Fabrication
Population: General

480812 - Heat Load / Duct Design

Grade Level: 9 - 12
Credits: 1
Description: Introduces the fundamentals needed to calculate heat gain and heat loss, thereby determining air conditioner/furnace size. This information will be used to calculate the correct duct size. Procedures to lay out a duct system as outlined in ACCA MANUAL D are presented.
Content: Metal Fabrication
Population: General

480813 - Parallel Line Layout

Grade Level: 9 - 12
Credits: 1
Description: This course introduces the parallel line method of developing the pattern for an object.
Content: Metal Fabrication
Population: General

480831 - Industrial Maintenance

Grade Level: 9 - 12
Credits: 1
Description: This course introduces various types of sheet metal designs, fabrication, and fastening techniques used in the sheet metal industry.
Content: Industrial Maintenance Technology
Population: General

480899 - Special Topics - Metal Fabrication

Grade Level: 9 - 12
Credits: .5-1
Description: Instruction related to Industrial Education - Metal Fabrication but not described in the above courses.
Content: Metal Fabrication
Population: General

Industrial Education - Marine Technology (490300)

490313 - Mid-Section, Lower Unit, and Trim/Tilt

Grade Level: 9 - 12
Credits: 1
Description: This course presents the theory and application necessary to repair and/or replace parts in the mid-section, lower unit, and trim/tilt systems in marine applications.
Content: Commercial and Recreational Small Engine Technology
Population: General

490314 - Mid-Section, Lower Unit, and Trim/Tilt Lab

Grade Level: 9 - 12
Credits: 1
Description: This course presents hands-on instruction in the theory necessary to repair and/or replace parts in the mid-section, lower units, and trim/tilt systems in marine applications.
Content: Commercial and Recreational Small Engine Technology
Population: General

490315 - Powerhead Overhaul

Grade Level: 9 - 12
Credits: 1
Description: This course presents instruction in overhauling two-cycle engines and repairing and/or replacing ignition systems.
Content: Commercial and Recreational Small Engine Technology
Population: General

490316 - Powerhead Overhaul Lab

Grade Level: 9 - 12
Credits: 1
Description: This course presents hands-on experience in overhauling two-cycle motors, tuning up motors, and repairing and/or replacing ignition systems.
Content: Commercial and Recreational Small Engine Technology
Population: General

490317 - Special Topics - Marine Technology

Grade Level: 9 - 12
Credits: 1/2 - 1
Description: Instruction related to Industrial Education - Marine Technology but not described in the above courses.
Content: Commercial and Recreational Small Engine Technology
Population: General